

ORIGINAL

RECEIVED

APR 22 1992

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

Federal Communications Commission
Office of the Secretary

In the Matter of)
)
Policies and Rules for) RM -
Licensing Fallow 800 MHz)
Specialized Mobile Radio)
Spectrum Through a Competitive)
Bidding Process)

To: The Commission

PETITION FOR RULEMAKING

FLEET CALL, INC.

Robert S. Foosaner
Lawrence. R. Krevor
1450 G Street, N.W.
Washington, D.C. 20036

Its Attorneys

April 22, 1992

No. of Copies rec'd 0+4
List A B C D E

TABLE OF CONTENTS

SUMMARY	i
I. INTRODUCTION	1
II. SMRS MUST COMPETE WITH THE EVOLVING NATIONWIDE SERVICE CAPABILITIES OF OTHER MOBILE COMMUNICATIONS PROVIDERS	3
III. SUMMARY OF THE PROPOSAL	7
IV. CREATING A NATIONWIDE, DIGITAL WIRELESS COMMUNICATIONS INFRASTRUCTURE IS ESSENTIAL TO PROVIDING COMPETITIVE PRIVATE LAND MOBILE COMMUNICATIONS IN THE 1990s AND BEYOND	9
A. Mobile Communications Systems Are Evolving to Offer Nationwide Service Capabilities	9
B. The Commission Has Recognized the Need for Nationwide SMR Service and Advanced Digital SMR Systems	14
V. THE COMMISSION SHOULD AMEND ITS RULES TO STIMULATE THE IMPLEMENTATION OF DIGITAL SMR SYSTEMS	17
VI. COMPETITIVE BIDDING OFFERS THE MOST EFFICACIOUS LICENSING MECHANISM FOR ACCELERATING THE NATIONWIDE INTRODUCTION OF 800 MHZ DIGITAL SMR SYSTEMS	24
A. A Competitive Bidding Pilot Program Is In The Public Interest	24
B. Legal Basis	27
C. Innovator Block Licensing Implementation Policies	29
VII. CONCLUSION	31
Attachment A	
Attachment B	
Attachment C (Included only with the original and 4 copies filed with the Federal Communications Commission)	

SUMMARY

Fleet Call, Inc. ("Fleet Call"), the pioneer in bringing advanced highly efficient digital technology to the private radio services, is petitioning the Federal Communications Commission (the "Commission") to **auction** 105-channel "innovator blocks" of vacant 800 MHz Specialized Mobile Radio (SMR) spectrum in discrete markets throughout the country. This would accelerate the introduction of advanced digital SMR systems, promote the development of a seamless nationwide digital SMR network and provide additional services in smaller markets.

The public wants wide-area, regional and national private land mobile communications capabilities. Fleet Call has identified significant blocks of unassigned 800 MHz SMR spectrum in 180 of the 306 metropolitan areas throughout the nation -- many of them strategically located near or between the major markets where advanced digital SMR systems are already developing. This unused spectrum has been available for a decade. Additional 800 MHz SMR spectrum is also available in adjoining non-metropolitan areas.

The Commission has explicitly recognized that its existing rules hinder the development of wide-area, regional and national SMR systems. By adopting minor revisions to the SMR regulatory scheme, the Commission can create the incentives necessary for entrepreneurs to provide the improved coverage, quality, capacity and services made possible by digital technology in markets throughout the country.

Fleet Call proposes that the Commission assemble innovator blocks using this vacant spectrum in each market. The economics of implementing digital technology in smaller markets requires that entrepreneurs have access to sufficient spectrum capacity for future growth and to link their systems with the major market systems if they are to risk the investment required for digital SMR systems. Investors are ready and willing to bid for exclusive use of large blocks of vacant 800 MHz SMR spectrum to construct advanced digital SMR systems in markets which have not yet responded to existing marketplace forces. This proposal offers the Commission a unique opportunity to seek Congressional authorization for a pilot competitive bidding licensing program for vacant SMR channels that will stimulate the availability of new wireless communications technologies and services for the American public while generating substantial revenues for the United States Treasury.

Fleet Call's proposal is a "win-win" proposition for the Commission. It will stimulate the creation of nationwide, highly-efficient digital mobile SMR systems using spectrum that has lain fallow for ten years. In doing so, it will provide additional mobile communications services in underserved areas. Competitive bidding will also generate hundreds of millions of dollars in licensing bid receipts for the United States Treasury. These benefits present a compelling public interest justification for expeditiously undertaking the actions requested herein.

APR 22 1992

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of)
)
 Policies and Rules for) RM -
 Licensing Fallow 800 MHz)
 Specialized Mobile Radio)
 Spectrum Through a Competitive)
 Bidding Process)

PETITION FOR RULEMAKING

Fleet Call, Inc. ("Fleet Call") respectfully petitions the Federal Communications Commission (the "Commission") to initiate a rulemaking proceeding to create economic incentives for entrepreneurs to accelerate the development of a seamless nationwide digital Specialized Mobile Radio ("SMR") communications network.

In a number of major markets, such as Pittsburgh, Memphis and Louisville, and in most of the nation's smaller markets, substantial numbers of 800 MHz SMR channels allocated more than 10 years ago have never been licensed. Fleet Call proposes that the Commission assemble large blocks of fallow 800 MHz trunked SMR channels (the "innovator blocks") and authorize entrepreneurs to build advanced digital SMR systems that are at least six times more efficient than traditional analog SMR systems. Entrepreneurs must be able to obtain exclusive use of a large number of channels to be assured of sufficient system capacity to justify the high cost of

building advanced digital SMR systems.

To ensure that these vacant SMR channel blocks are made available fairly and efficiently, Fleet Call proposes that the Commission expeditiously obtain Congressional authority for a pilot program using auction procedures to assign these channels. The limited use of auctions to license the innovator blocks will accelerate the introduction of highly efficient digital SMR systems and the creation of a nationwide digital 800 MHz SMR service capability while generating substantial revenues for the United States Treasury.^{1/} Moreover, as former Secretary of Commerce Robert Mosbacher has stated:

"Competitive bidding would do more than provide revenue to the federal treasury. It would accelerate the pace of innovation and help ensure that the most productive innovators have access to the spectrum they need."^{2/}

Thus, unlike lotteries, which reward speculators, auctions would attract "productive innovators" and for the first time compensate the American public for the use of valuable spectrum resources. Making large blocks of spectrum available through competitive bidding would accelerate the development of spectrum efficient technology by creating new opportunities for access to SMR channels that are currently vacant.

^{1/} It will also provide the Commission and the Congress with experience on which to evaluate expanded use of the competitive bidding licensing mechanism.

^{2/} Testimony, Senate Communications Subcommittee Hearing, October 17, 1991.

II. SMRS MUST COMPETE WITH THE EVOLVING NATIONWIDE SERVICE CAPABILITIES OF OTHER MOBILE COMMUNICATIONS PROVIDERS

The Chairman and Chief Executive Officer of McCaw Cellular Communications, Inc. ("McCaw") recently stated that its goal ". . . has been and continues to be the deployment of a seamless cellular network that spans North America."^{3/} The technological, competitive and marketplace forces driving the creation of nationwide cellular networks are also at work in the entrepreneurial SMR service.

In response to these forces, Fleet Call pioneered the development of spectrally efficient digital SMR networks by obtaining Commission authorization to construct and operate 800 MHz Enhanced Specialized Mobile Radio systems ("ESMR" or "Digital Mobile networks") in Chicago, Dallas, Houston, Los Angeles, New York and San Francisco.^{4/} Fleet Call's first Digital Mobile network is currently under construction in Los Angeles and will become operational in August 1993.

Fleet Call has joined with four other prominent SMR licensees committed to implementing digital mobile SMR systems to form the

^{3/} Statement of Craig O. McCaw accompanying the announcement of a joint venture between McCaw and PacTel Corporation combining their cellular interests in San Francisco, San Jose, Dallas, and Kansas City, August 29, 1991.

^{4/} In re Request of Fleet Call, Inc. for Waiver and Other Relief to Permit Creation of Enhanced Specialized Mobile Radio Systems in Six Markets, 6 FCC Rcd 1533 (1991) ("Fleet Call Waiver Order"), recon. den. 6 FCC Rcd 6989 (1991).

Digital Mobile Network Roaming Consortium ("DMNRC").5/ DMNRC members serve areas with a population of over 90 million people ranging from Boston to Richmond (including New York, Philadelphia and Baltimore/Washington), Atlanta, Denver, Minneapolis, Phoenix, Miami, Tampa/St. Petersburg as well as Fleet Call's Digital Mobile network markets.6/

Motorola, Inc. is responding to the demand for greater geographic coverage and improved service by deploying its Motorola Integrated Radio System ("MIRS") digital SMR technology in at least 50 markets by 1993.7/ MIRS is the backbone technology for Fleet Call's Digital Mobile networks and MIRS or MIRS-compatible systems are planned by all of the DMNRC members. Thus, SMRS are creating the initial digital system infrastructure for roaming in the major markets.8/

5/ DMNRC members include American Mobile Systems, Dispatch Communications, Inc., CenCall and Transit Communications. DMNRC will develop a nationwide, name-brand SMR marketing identity and emphasize building the base station infrastructure required for consistent in-building coverage for portable mobile units.

6/ In addition to DMNRC, other SMR licensees are also following Fleet Call's lead and are planning enhanced SMR systems in New England and South Florida. See Application of Mobile Radio New England ("MRNE") for Waiver of the Commission's Rules, filed October 28, 1991; Application of Advanced Radio Communication Services of Florida, Inc. ("Advanced") for Authority to Integrate Four Trunked Stations Into One System, filed July 15, 1991. Both licensees are expected to use compatible technology in their digital SMR networks making additional roaming coverage possible.

7/ Industrial Communications, September 27, 1991. Motorola also has a traditional analog national SMR network in the 800 MHz band under the trade name *CoveragePLUS*.

8/ A number of Florida SMRs have formed the *Mobile ComNet* consortium and plan to construct a seamless digital network
(continued...)

Fleet Call, through its Digital Mobile networks, is pioneering the conversion of analog SMR systems to digital transmission technology. Formation of the DMNRC Consortium, and the other SMR affiliations noted above, demonstrate that enhanced digital SMR systems will be constructed in the largest metropolitan areas beginning in 1993 and that common use of compatible technology will make roaming among them possible. However, the Commission's rules and licensing policies may inhibit the development of advanced digital systems in the rest of the nation and should be changed.

Fleet Call proposes that the Commission rethink its licensing procedures and grant exclusive use of a block of unassigned channels in defined metropolitan and rural service areas for advanced digital SMR systems at least six times more efficient than existing analog systems. This Petition proposes deregulatory steps that will create the economic incentives required to facilitate these systems and thereby accelerate the development of a seamless digital nationwide SMR communications network.

Fostering the development of digital SMR systems throughout the nation is in the public interest; it will offer higher quality private radio mobile communications, provide additional mobile communications in underserved areas and promote the widespread use

8/(...continued)
expanding Advanced's "Intelligent SMR" system throughout central and south Florida. Similarly, Fidelity Capital, the owner of Advanced MobileComm of New England, Inc. (the managing partner of MRNE) has announced plans to form *MobileAmerica* -- a nationwide affiliate organization of independent SMRs offering its members marketing and sales support, geographic reach and access to new products and services.

of highly efficient digital SMR technology.^{9/} Moreover, the spectrum that would be auctioned has been available for more than 10 years and remains fallow today. With the proper economic incentives, Fleet Call and other entrepreneurs are ready to bid for exclusive use of unassigned spectrum that can be meshed with the major market systems in a nationwide digital SMR network.

In addition, unlike the Commission's recent proposal to reallocate spectrum in the 1.8-2.2 GHz band for emerging personal communications technologies,^{10/} which necessitates the time-consuming and painful process of displacing or relocating existing licensees, Fleet Call's proposal can be implemented expeditiously and raises none of the complex issues involved in taking spectrum away from current users. Fleet Call's deregulatory proposal advances the introduction of new technologies and services without impacting existing licensees while generating substantial revenue for the U.S. Treasury. The Commission should seize this unique opportunity to adopt an authorization scheme that will stimulate new wireless communications technologies and services for the American public.

^{9/} As discussed below, licensees should be required to employ digital technology at least six times more efficient (six times the capacity) of traditional analog, trunked SMR systems but should otherwise be free to innovate.

^{10/} The Commission has proposed reallocating spectrum in the 1.8-2.2 GHz band for the development of Personal Communications Services ("PCS") and personal communications networks. See Redevelopment of Spectrum to Encourage Innovation in the Use of New Telecommunications Technologies, ET Docket No. 92-9, FCC 92-20, released January 7, 1992 (the "New Technologies NPRM").

III. SUMMARY OF THE PROPOSAL

Fleet Call proposes that the Commission establish and set aside designated innovator blocks of unassigned 800 MHz trunked SMR channels within geographic areas mirroring the Metropolitan Statistical Areas ("MSAs") and Rural Service Areas ("RSAs") used for cellular licensing purposes and outside of the "wait list" areas for 800 MHz SMR frequencies.^{11/} As discussed in Section V, infra, an optimum innovator block would have 105 analog channels. Digital SMR infrastructure is more costly than traditional analog SMR systems. A 105-channel block provides necessary system capacity and permits sufficient frequency reuse to make constructing advanced digital SMR systems economic.^{12/} An innovator block of 105 channels would attract the substantial investment necessary to construct advanced digital SMR systems.

In a number of the MSA markets, fewer than 105 unassigned 800 MHz trunked SMR channels are available. An innovator block of at least 42 channels would permit a minimal level of frequency reuse thereby assuring sufficient capacity for subscriber growth and roaming traffic. The licensee must have exclusive use of a

^{11/} Under the Commission's existing "first-come, first-served" licensing policies for 800 MHz SMRs, applications that cannot be granted due to the exhaustion of available spectrum in a market are placed on a "Waiting List" list for any frequencies that may become available due to channel recoveries. See Section 90.611 of the Rules. Markets with waiting lists have no unassigned trunked SMR channels. Accordingly, this proposal excludes those MSAs and portions of MSAs within the Commission's defined waiting list areas.

^{12/} For example, a 5-cell digital system using 105 analog channels could serve approximately 25,000 subscribers.

sufficient number of channels to manage the traffic generated by "local" growth in both dispatch and interconnected services as well as integration into a wide-area network. This is inhibited so long as the Commission allows SMRs to obtain only five 800 MHz trunked SMR channels at a time.

Fleet Call has determined that approximately 180 of the 306 MSAs have sufficient unlicensed 800 MHz SMR channels in their "core" areas to attract the investment needed to construct advanced SMR systems.^{13/} With few exceptions, large numbers of frequencies are also available in the RSAs.^{14/} Attachment A depicts the MSAs with at least 42 vacant 800 MHz channels, the RSAs, and the major markets in which existing SMRs have publicly committed to implement digital technology. Entrepreneurs are ready to bid for the exclusive assignment of many of these blocks -- particularly those strategically located in relation to the major

^{13/} Exhibits 1 through 4 of Attachment B list the MSA markets with at least 105, 84, 63 and 42 channels available, respectively, in descending order of population. Attachment C identifies the specific frequencies available in each MSA. "Core area" refers to the largest city in the MSA or other economic center of the area. Any frequency not assigned within 55 miles of the core area of the MSA is considered available for assignment within the MSA. Under this proposal, a frequency not assigned in the core area could be used anywhere within the MSA taking into account the co-channel separation requirements of Section 90.621(b) of the Rules.

^{14/} Fleet Call has undertaken the research required to identify vacant channels in the 306 MSAs. Identification of vacant 800 MHz trunked SMR channels in the RSAs should be commenced expeditiously. This would enable entrepreneurs to design regional systems and bid for innovator blocks on a regional basis to better serve existing economic and marketing areas and regional communities of interest. In retrospect, relegating RSAs to the lowest priority in the cellular licensing scheme hindered the creation of regional service and roaming capabilities to meet existing and developing commuter and economic activity patterns.

markets. Accordingly, Fleet Call proposes that the Commission obtain auction authority for these innovator blocks and adopt rules to facilitate expeditious licensing, as discussed below.

IV. CREATING A NATIONWIDE, DIGITAL WIRELESS COMMUNICATIONS INFRASTRUCTURE IS ESSENTIAL TO PROVIDING COMPETITIVE PRIVATE LAND MOBILE COMMUNICATIONS IN THE 1990s AND BEYOND

A. Mobile Communications Systems Are Evolving to Offer Nationwide Service Capabilities

The 1990s will be the decade of wireless communications networks. Advances in technology, particularly digital multiplexing techniques, increasing demand for ubiquitous nationwide mobile communications capabilities, and competition are the major factors driving development of a wide range of new wireless communications services. Existing wireless communications providers are looking for new markets and evaluating new technologies and services; new entrants are also being created to provide even more competition and innovative new service offerings. Paging systems, cellular telephone systems, SMRs, mobile satellite systems, vehicle tracking systems and data networks are all evolving to offer nationwide communications capabilities.^{15/}

^{15/} There are numerous examples throughout the mobile communications industry of initiatives designed to satisfy the public's growing need for ubiquitous mobile communications systems. For example, many of the nation's leading communications entities are working to develop new technologies and services under the broad Personal Communications Services category designed to offer "electronic gateways" to universal seamless communications networks tailored to personal communications needs, desires and habits. Manufacturers are also developing radio modems to enable portable "laptop" computers to communicate as mobile units with central office computers and data bases over existing cellular, SMR and private radio systems. In addition, the World Administrative Radio Conference has adopted a worldwide allocation for low-earth
(continued...)

The cellular radio industry is leading this trend toward consolidation of local systems into nationwide networks. In June 1991, McCaw and Southwestern Bell Mobile Systems announced an agreement to license the *Cellular One* trademark to non-wireline cellular carriers nationwide paving the way for seamless *Cellular One* service throughout the nation.^{16/} On the wireline side, five of the major cellular carriers, including three Bell Operating Companies, recently announced an agreement to "develop and implement jointly a strategy that could form the basis for a nationwide brand identity for wireless communications services."^{17/} The five carriers serve an area with a population of approximately 120 million people and expect to recruit other wireline providers to create a nationwide identity.

In addition, cellular carriers are requesting authority to provide specialized services on a private carrier basis over cellular frequencies. In its Petition for Rulemaking to permit cellular licensees to offer non-common carrier services, Telocator states that the increasing ubiquity of the nation's cellular services, and rapidly changing network technology, have made

^{15/}(...continued)
orbiting satellites that will eventually enable subscribers to reach each other virtually anywhere in the world.

^{16/} See "Two Carriers Are Out To Make *Cellular One* A Household Name," Radio Communications Report (RCR), Vol. 10 No. 11, June 3, 1991.

^{17/} The carriers are Ameritech Mobile Communications, Inc., Bell Atlantic Mobile Systems, Nynex Mobile Communications Co., GTE Mobilenet and Contel Cellular, Inc. See "5 Companies Seek National Brand Identity," RCR, Vol. 11 No. 4, February 24, 1992.

cellular offerings increasingly attractive to users with specialized needs.^{18/} As a result, cellular carriers are:

"increasingly interested in developing innovative private carrier services Indeed, these kinds of offerings are likely to be in demand given the growing coverage and seamless ubiquity of the modern cellular network."^{19/}

Telocator's suggestion that cellular carriers be permitted to enter the private carrier market underscores the fact that businesses and other private radio customers want and are willing to pay for improved, wide-area SMR services. SMRs must employ advanced technology and develop ubiquitous coverage in order to meet the specialized service requirements of private radio customers in the 1990s.^{20/}

Quite properly, there are no regulatory barriers preventing cellular carriers from forming seamless national cellular networks.^{21/} In contrast, the Commission's rules governing

^{18/} Amendment of the Commission's Rules to Authorize Cellular Carriers to Offer Auxiliary and Non-Common Carrier Services, RM-7823, filed September 4, 1991.

^{19/} Id. at p. 8.

^{20/} Adopting the regulatory initiatives proposed herein would accelerate the construction of advanced, efficient digital SMR systems throughout the nation and further diminish any possible need to divert common carrier cellular spectrum to provide private radio services.

^{21/} The Commission has granted the cellular industry flexibility to introduce new cellular technologies and nonconventional services provided that "conventional" cellular service is available in sufficient amounts to satisfy both local and roamer conventional requirements. See Amendment of Parts 2 and 22 of the Commission's Rules to Permit Liberalization of Technology and Auxiliary Service Offerings in the Domestic Public Cellular Radio Telecommunications Service, 3 FCC Rcd 7033 (1988).

assignment of SMR frequencies were designed in the 1970s for an industry that did not yet exist. This regulatory structure has been very successful in fostering the growth of SMR services in the most heavily populated markets. Ironically, however, the regulations that were effective in promoting prompt use of channels in the largest markets and preventing "warehousing," impede secondary market development by inhibiting entrepreneurs from obtaining economically viable blocks of spectrum. 800 MHz SMRs are limited to five channel assignments for any one location at any one time.^{22/} An applicant cannot obtain additional channels for a station until the first channels are loaded; i.e., have at least 70 mobile units licensed on each channel.^{23/} The rules also prevent a licensee from having more than one unloaded 800 MHz trunked SMR station within 40 miles of each other.^{24/} These regulatory "leftovers" from the 1970s and 1980s frustrate the development of ubiquitous digital SMR services.^{25/}

SMR systems will convert to digital technology in the largest

^{22/} Section 90.621(a)(1)(iv) of the Rules.

^{23/} Section 90.631(c) of the Rules. In rural areas, however, an applicant can obtain an additional five trunked channels beyond that justified by its loading count. See Section 90.631(d).

^{24/} Section 90.627 of the Commission's Rules. This makes it difficult to serve a larger area than could be served by one base station. Since traditional single site analog SMR systems typically have service areas of approximately 20 to 35 miles, entrepreneurs must be able to construct multiple base stations to serve larger areas.

^{25/} The unprecedented new authority Telocator seeks for cellular carriers underscores the importance of expeditiously removing unintended regulatory obstacles to the development of competitive wide-area digital SMR service.

markets -- and in some cases implement frequency reuse capability through multiple low-power base stations -- to offer the capacity, quality, and diverse services demanded by today's users in a competitive wireless communications industry. The increasing popularity of portable mobile handsets will also require SMRs to develop ubiquitous digital SMR service. Portable mobile units account for an increasingly higher percentage of new SMR mobile unit sales and are likely to supplant vehicle-based units for many customers. Providing ubiquitous "in-building" coverage for portable SMR mobile units requires more infrastructure than vehicular service. SMR systems will ultimately have to provide virtually "universal" coverage to support portable mobile use by customers who find themselves operating over increasingly wide regional areas.

It is not in the public interest to limit the benefits of digital SMR service to the largest markets. Digital offers greater capacity, improved transmission quality, increased privacy, and the flexibility to offer enhanced and customized calling features for both dispatch and interconnected services as well as improved data communications. Large market users will come to expect these features as they roam into and through secondary markets. Digital service is in the public interest for all customers -- not just those in the largest markets.

Moreover, as digital technology is implemented on a broader basis, the cost of digital base station and mobile units will be reduced; in fact, customer digital units are likely to become less

expensive than today's analog SMR mobile units while providing more desirable services and service quality. For all of these reasons, the public interest requires that the Commission remove outdated regulatory constraints that impede the availability of SMR service in secondary markets and substitute a licensing program that will promote the formation of nationwide roaming capabilities.

B. The Commission Has Recognized the Need for Nationwide SMR Service and Advanced Digital SMR Systems

There has been explosive growth over the past ten years in demand for SMR services in the major markets.^{26/} The SMR industry has evolved from a predominately local voice dispatch service to an increasingly wide-area and regional communications medium offering both voice and data communications capabilities. Entrepreneurs have sought and obtained Commission authorization for a number of wide-area, multi-city, innovative SMR-based services.^{27/} A major step in this evolution was the Commission's approval of RAM Mobile Data's nationwide, digital two-way 900 MHz SMR-based mobile data communications network allowing tracking of and data communications with mobile stations across the nation.^{28/}

^{26/} The industry today serves more than 1.2 million users and demand is projected to continue to increase during the 1990s.

^{27/} See e.g., IBM Research and Development, 53 RR 2d 675 (1983); Advanced Train Control System, 3 FCC Rcd 427 (1988).

^{28/} See American Mobile Data Communications, Inc., 4 FCC Rcd 3802 (1989). See also Letter dated May 17, 1991 from Richard J. Shiben, Chief Land Mobile and Microwave Division, to Robyn G. Nietert, Esq., authorizing Millicom to construct a nationwide SMR two-way mobile data and voice communications network.

In its Notice of Proposed Rulemaking concerning the Phase II licensing of 900 MHz SMR channels outside the Designated Filing Areas, the Commission explicitly recognized that its existing rules make developing wide-area, regional and national SMR systems burdensome, time consuming, wasteful, and in some cases, impossible.^{29/} Accordingly, it proposed rule revisions to facilitate the licensing of nationwide 900 MHz SMR systems on designated frequencies and the development of wide-area 800 MHz systems in rural areas. In addition, the Commission has reallocated 50 channels in the 220-222 MHz band for nationwide non-government private radio systems including four five-channel blocks for entrepreneurial, commercial systems.^{30/}

The Commission's approval of Fleet Call's ESMR initiative in six of the largest cities in the country is a benchmark in the technical, entrepreneurial and marketplace evolution of the SMR industry.^{31/} The Digital Mobile networks will provide at least 15 times more capacity for both dispatch and interconnect users throughout these major metropolitan areas at significantly higher quality than existing analog systems. Thus, the Commission

^{29/} Amendment of Parts 2 and 90 of the Commission's Rules to Provide for the Use of 200 Channels Outside the Designated Filing Areas in the 896-901 MHz and 935-940 MHz Bands Allotted to the Specialized Mobile Radio Pool, 4 FCC Rcd 8673 (1989) (the "900 MHz Phase II NPRM").

^{30/} See Report and Order, Gen. Docket No. 87-14, 3 FCC Rcd 5287 (1988), recon. denied, 4 FCC Rcd 6407 (1989), aff'd, American Radio Relay League, Inc. v. FCC and United States of America, 928 F.2d 978 (D.C. Cir. 1990).

^{31/} Fleet Call Waiver Order, supra n. 4.

responded affirmatively to Fleet Call's request for authorization to more efficiently use its existing licensed spectrum.

In its recent initiation of a major reallocation proceeding, the Commission noted that:

"In recent years, technological advancements in digital and signal processing systems have opened possibilities for the development of a broad range of new radio communication services. These technological advances have increased the need for spectrum to foster the growth and development of new services primarily for mobile applications."^{32/}

Once again, Fleet Call is proposing to the Commission a method for maximizing existing allocations without the need for additional spectrum or spectrum reallocation to implement technological advances. No existing licensee will be adversely impacted. This Petition provides the Commission the opportunity to create a regulatory environment that will attract new capital to accelerate the implementation of advanced SMR systems throughout the nation to provide new service capabilities for private radio customers. With the right economic incentives, entrepreneurs are willing to risk the capital necessary to implement ubiquitous digital SMR technology, as discussed below. The Commission created the SMR industry to stimulate innovative entrepreneurs to find new and better ways to provide communications services for private radio customers and such entrepreneurs are primarily responsible for its success. This proposal is likely to attract many more

^{32/} New Technologies NPRM, supra n. 10, at para. 7.

entrepreneurs to provide competitive mobile communications services.

V. THE COMMISSION SHOULD AMEND ITS RULES TO STIMULATE THE IMPLEMENTATION OF DIGITAL SMR SYSTEMS

After working well for 10 years, the Commission's assignment rules for the SMR service need to be updated in light of the economic, technological and marketplace realities of the 1990s. Available 800 MHz spectrum has been fully assigned in the major markets and the success and maturity of existing analog trunked systems forms the basis for the demand for higher capacity, wide-area digital systems in those markets.

The Commission's rules have not been as effective in stimulating the provision of SMR service in secondary markets. The smaller population of these markets and the relatively restricted service offerings possible with analog technology have been unable to support advanced systems, thus denying customers the benefits of competitive innovation. Moreover, the five-channel assignment limitation of Section 90.621 and the 40-Mile Rule prevent applicants from acquiring sufficient channels in the secondary markets to risk the capital necessary to construct digital systems capable of being used as part of a wide-area network. This is particularly true in areas where population and business activity are less concentrated and licensees require extended coverage areas to achieve both a "critical mass" of subscribers and to meet their communications needs.^{33/} Applicants must submit numerous

^{33/} Moreover, the same set of frequencies may not be available at each of the licensee's desired sites.

station applications, and engage in cumbersome management arrangements having no rational economic basis, in order to piece together wide-area capabilities.^{34/} These regulatory dinosaurs make developing wide-area digital private radio systems more difficult and may delay providing needed services to customers.

As a result, there is significant unlicensed 800 MHz SMR spectrum lying fallow outside of the largest markets. Approximately 180 of the 306 MSAs in which cellular systems have been licensed have at least 42 unlicensed 800 MHz SMR channels in their "core" areas and most have substantially more frequencies available. Large numbers of 800 MHz channels are also unassigned in the RSAs as well.

The Commission recognizes that the "lack of available spectrum tends to have a chilling effect on the incentives for manufacturers and financial institutions to develop and fund new communications research."^{35/} Reconfiguring the SMR authorization scheme for secondary markets will create the incentives necessary for entrepreneurs to develop nationwide SMR services and for vendors to offer exciting new products with which to provide these services, without any additional new spectrum.

The public interest will be served by stimulating investment in the widespread implementation of digital SMR infrastructure. Constructing digital SMR systems is much more expensive than analog stations and requires greater capital commitments. This means that

^{34/} See 900 MHz Phase II NPRM, 4 FCC Rcd 8673 (1989).

^{35/} New Technologies NPRM at para. 7.

entrepreneurs and their sources of financing require a higher degree of certainty that a system has sufficient spectrum "in hand" for both present needs and a reasonable estimate of future expansion and which can provide service competitive with other wireless communications providers. The capital investment necessary for digital implementation in the secondary markets will be delayed if entrepreneur/applicants are limited to five-channel systems. Licensees must have access to sufficiently large spectrum assignments to link up with the enhanced digital SMR systems in the largest markets and to accommodate future growth through a low-power, multiple base station frequency reuse configuration.

This is the essence of Fleet Call's proposal. The Commission would auction blocks of vacant spectrum to assure SMR entrepreneurs of sufficient channel capacity to risk the investment required to build advanced systems using digital technology at least six times more efficient than analog. With these incentives, SMR entrepreneurs would create a highly efficient digital SMR infrastructure capable of providing a variety of new services to the public. Moreover, as digital SMR technology is introduced on a broader scale in response to this initiative, higher volume will result in lower prices reducing the costs of both base station infrastructure and customer mobiles.

Accordingly, Fleet Call proposes that the Commission set aside for licensing through competitive bidding designated blocks of unassigned 800 MHz SMR channels -- with an optimum block of 105 channels -- within geographic areas mirroring the MSAs or RSAs

outside of the 100-mile radius of urban areas in which the Commission maintains waiting lists for 800 MHz SMR frequencies.^{36/} These licensing boundaries have worked for other mobile systems and provide defined boundaries for new SMR systems as well as clearly observable proximity and ties to major market areas. At least 42 channels must be available in a market to allow for future implementation of a standard frequency reuse configuration with sufficient capacity to attract the investment necessary to construct a digital system.^{37/}

^{36/} The optimum innovator block should be 105 channels. This provides sufficient future capacity to stimulate investment in digital SMR systems. It also means that 175 other trunked 800 MHz SMR channels and 200 900 MHz SMR channels are available to or may already be assigned to competitors in each market. Thus, Fleet Call's proposal does not protect innovator block licensees from competition. These systems will promote competition where none currently exists, thereby benefiting SMR customers. In addition, competitive bidding would only be used for licensing the innovator blocks; existing licensing procedures would remain in effect for the remaining 175 trunked channels and other SMR frequencies. See Section VI, infra.

^{37/} The Commission should designate and set-aside the largest block available of 105, 84, 63 or 42 channels for each market as set forth in Attachment B. Fleet Call's experience in planning and financing its Digital Mobile networks indicates investors require certainty that mobile communications systems have sufficient capacity for future growth in a competitive wireless communications environment. Therefore, aggregating sufficient channels to implement a highly efficient, frequency reuse-capable system is essential to attract the investment required to build higher cost (as opposed to analog) digital SMR systems.

For example, in markets where 105 analog channels are vacant, using digital technology six times more efficient than analog would accommodate approximately 25,000 subscribers in a typical smaller-market five-site configuration. If 84 analog channels are vacant, a comparable system would have capacity for 19,000 subscribers. Even with only 42 analog channels, a five-site innovator block system using digital technology six times more efficient than analog could serve approximately 8,800 subscribers. Additional
(continued...)

Fleet Call suggests that the Commission not grant any additional licenses on the innovator block channels, pending selection by competitive bidding of an innovator block licensee, to prevent speculators from undercutting the purpose of the innovator block concept. Any existing licensees with fully loaded systems in an MSA or RSA seeking additional channels could be granted five-channel blocks of available non-innovator block 800 MHz trunked channels (as noted above) or 800 MHz General Category channels and be permitted to trunk them. In addition, new applicants could be assigned 900 MHz SMR trunked frequencies. With these accommodations, a temporary moratorium on licensing of the proposed innovator block channels -- which have lain fallow for 10 years -- pending implementation of this proposal would not impede or limit the legitimate growth of any existing SMR systems.

Attachment B lists the MSAs with a minimum of 42 unassigned frequencies in their core areas. Attachment C identifies each frequency available for each MSA. There are a number of attractive MSAs with large numbers of vacant channels located near major markets where digital SMR service is already being implemented. For example, approximately 136 frequencies are available in Albany, New York. This is a valuable market given its substantial commercial, economic, governmental and transportation ties to New York and the New England area where digital SMR systems will be implemented in the next few years. One hundred thirty channels are

37/(...continued)
capacity can be achieved by implementing frequency reuse as warranted.